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286 A Summary of Current Programs 11/15/67
79822 and Preliminary Report of Progress
for 10/1/66 to 7/1/67

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FOREIGN REGIONAL ANALYSIS DIVISION
of the
ECONOMIC RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE
and related work of the
STATE AGRICULTURAL EXPERIMENT STATIONS

This progress report is primarily a tool for use of scientists and administrators in program coordination, development and evaluation; and for use of advisory committees in program review and development of recommendations for future research programs.

The summaries of research progress include a brief description of the work performed by foreign research institutions under direction of the Division with Section 104(a) of Title I, P.L. 480 funds, and contractual work performed for the Division by Land-Grant Universities and other institutions or persons.

The summaries of progress on U.S.D.A. and research-contractor activities include some tentative results that cannot be confirmed until the research has further progressed. Such findings, when adequately confirmed will be released promptly through established channels. Because of this, the report is not intended for publication and should not be referred to in literature citations. Copies are distributed only to members of Department staff, advisory committee members and others having a special interest in the development of public agricultural research programs.

This report also includes a list of publications reporting results of U.S.D.A. and cooperative research issued between October 1, 1966 and July 1, 1967. This progress report was compiled in the Foreign Regional Analysis Division, Economic Research Service, U.S. Department of Agriculture, Washington, D. C. 20250.

UNITED STATES DEPARTMENT OF AGRICULTURE

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INTRODUCTION

The Foreign Regional Analysis Division is one of two research divisions of the Economic Research Service which works in the foreign field. Its function, through basic and applied research, is to analyze effects of world, regional, and country developments and trends in agricultural production, consumption, and trade to disclose opportunities for developing new markets and maintaining and expanding existing markets for U.S. farm products.

The research and service work of the Division involves a Washington staff of 57 economists (research scientists) plus 7 supervisors. The members of this staff perform economic and statistical analysis work in Washington; travel abroad and gather data not available through other channels; and plan, negotiate, and direct the execution of research contracts.

The Foreign Regional Analysis Division is reimbursed for research work done for the Central Intelligence Agency and the Agency for International Development. For CIA the Division annually prepares eight major monographs on the agricultural resources, production, consumption, trade and institutions of selected countries. Six economists and one supervisor are engaged in this activity. They are included in the Division total. This research is not included above in the three research areas of the Division.

For AID the Division annually prepares index numbers of production for the less developed countries of the world and renders certain technical and consultative services in support of the technical assistance and training programs. The Division is also involved in a Participating Agency Service Agreement with AID to conduct research on the demand for export products of the less developed countries. The economists involved in these activities are included in the Division total and the research is included in the three research areas of the Division.

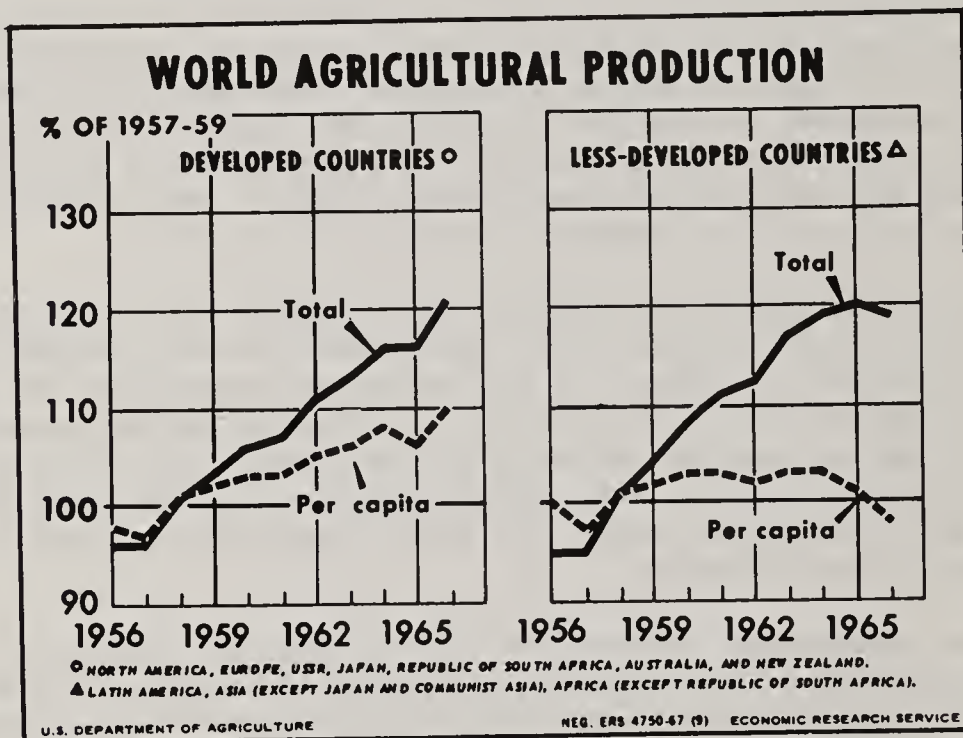
There is close cooperation between the Foreign Regional Analysis Division and the Foreign Development and Trade Division, and between the Division and the Foreign Agricultural Service to preclude duplication or overlapping of work. The work of the FRA involves the making of analyses by country or commodity while that of FDT involves the analysis of a given problem regardless of country or commodity. The work of FRA involves long-term analyses in greater depth than studies carried out in FAS for current operational purposes.

In addition to its own resources, the FRAD utilizes market development funds of Section 104(a), Title I, P.L. 480, administered by FAS, to contract with Land-Grant Universities and other economic and marketing organizations to perform research on market potential in countries and regions. Some P.L. 480 funds are advanced by FAS to cover travel abroad in servicing these contracts.

Illustrated highlights of some of the Division's research findings follow:

Much attention has been given recently to the world food problem. Concern has been focused on whether the world will be able to produce enough food to sustain the rapid increase in population and to support satisfactory levels of consumption in the less developed countries.

During the past decade, trends in agricultural production have not been significantly different for the developed and the less developed countries; in both groups the growth rate was about $2\frac{1}{2}$ percent a year. In contrast, population trends have been quite different, the developed countries having a growth rate only about half that in the less developed countries. Consequently, the less developed countries have, as a group, shown little increase in agricultural output per capita, although some of the less populous countries have recorded spectacular gains.



Weather in 1966 was specially unfavorable to agriculture in India, all of North Africa, and parts of West Africa and South America, and per capita output fell below the 1965 level in all less developed regions. The somewhat tight supply position in 1966 raised doubts concerning the ability of the world to feed itself. Special studies were conducted during this reporting period to assess the growing food needs of the less developed importing countries in relation to the production capacity of the exporting countries.

One such study, submitted to the President's Science Advisory Panel on the World Food Supply, made projections of production, trade, and use of grains for 1980 by major regions of the world. This study indicated that it would take up to two decades to bring the caloric diets of the less developed countries up to desirable levels, if recent trends in production and consumption were allowed to continue. However, with emphasis on agricultural development in the developing countries, desirable levels could be reached in about a decade. Under the latter assumption, the United States would export about 84 million metric tons of grain in 1980, well within the productive capacity of the country. This compares with exports of 50 million in 1965/66 and 38 million in 1964/65.

Another study on the World Food Situation also used projections of grain production, consumption, and trade for 1980 under alternative economic growth assumptions in the developing world. This study indicated that productive capacity in the developed world could easily meet the import needs of the less-developed countries even if the latter failed to boost growth rates in production. Thus, the world food problem is basically one of disparity of food production and food availabilities between the developed and less developed nations. Although this study put forth no policy recommendations, the conclusions and inferences will help determine policies that should be followed to insure that food aid will promote rather than deter agricultural development.

AREA NO. 1 -- CURRENT SITUATION AND SHORT-RUN OUTLOOK

PROBLEM

Current intelligence on foreign production, consumption, and trade is needed in order that the public may be adequately informed and that public policy-makers may render intelligent judgments and decisions. The problem is to evaluate current foreign developments significant to U.S. agriculture, and to provide U.S. policy-makers, agricultural export interests, and the American public with timely appraisals of these developments.

USDA PROGRAM

The Department has a continuing program to obtain, appraise, and disseminate information in this area. In the period covered, this work has required 29 scientists man-years in Washington.

Work in this area includes:

- (1) Appraisal of the current food and agricultural situation in foreign countries and the short-run outlook for the demand and supply of farm products;
- (2) Preparation of the annual World Agricultural Situation and the Regional Agricultural Situation Reports;
- (3) Analysis of foreign policies designed to protect agriculture, encourage trade, and support prices and income of agricultural producers;
- (4) Preparation of annual indices of agricultural and food production to measure trends and compare rates of growth;
- (5) Preparation of food balances to assess the size and quality of food supply;
- (6) Compilation and analysis of data on the agricultural economies of foreign countries for use in briefing U.S. officials and other individuals traveling abroad;
- (7) Analysis of foreign countries financial position, trade trends, and economic development (in cooperation with FDT).

PROGRAM OF STATE EXPERIMENT STATIONS

The State Experiment Stations report no research under this specific classification.

USDA PROGRESS

A. Africa and Middle East Branch

1. Africa and West Asia Agricultural Situation (continuing project)--African agricultural production in 1966 did not quite equal that in the previous year. On a per capita basis, 1966 production dropped 3 percent to 99 percent of the 1957-59 average. Declines in output were registered in North and West African countries. Production in the rest of Africa improved. In West Asia, agricultural production rose nearly 4 percent from that of 1965, reaching a level 28 percent above the 1957-59 average. On a per capita basis, farm output was up 1 percent in 1966 but was only 3 percent higher than the 1957-59 average.
2. Agricultural Policies in Africa and West Asia--Drafts on the agricultural policies of 33 African and West Asian countries were prepared in the period under review.
3. Agricultural Production Indices (continuing project)--Indices of agricultural and food production were completed for 39 countries in Africa and West Asia.
4. Improvement of Statistical Data (continuing project)--Work progressed in the preparation of country data books containing basic statistical records used in the analysis of agricultural developments and in the preparation of regularly-scheduled reports. The inadequacy of the basic statistics available for the countries of Africa and the Middle East makes this a major undertaking.
5. Agricultural Economies in Brief--These studies describe the agricultural resources, production, policy, and trade of the country. Manuscripts were prepared for Uganda, Liberia, Morocco, and Ghana.

B. Europe and Soviet Union Branch

1. Europe and Soviet Union Agricultural Situation (continuing project)--Agricultural production in Europe and the Soviet Union was at a record level in 1966, with increases in all three major areas--Western Europe, Eastern Europe, and the Soviet Union. The increases in the Soviet Union and Eastern Europe were substantial--favorable weather and increased inputs and incentives raised production by 16 percent and 6 percent, respectively. Agricultural production in Western Europe was up in 1966 as a decline in grain output was offset by livestock production and other crops. Prospects for agriculture

in Europe and the Soviet Union were favorable as of midyear 1967. Crops are reported in good condition and livestock numbers are larger than a year earlier.

2. Agricultural Policies in Europe and the Soviet Union--This study represents an updating of portions of a study published in 1964 by USDA on "Agricultural Policies of Foreign Governments-Including Trade Policies Affecting Agriculture." Significant changes are being made in the agricultural policies of the countries in Western Europe, particularly in connection with the development of a Common Agricultural Policy in the EEC and the conclusion of the Kennedy Round Negotiations. Also, major changes have been made in the agricultural policies of the Soviet Union and in Eastern Europe in recent years.
3. Statistical Data on Agricultural Production and Trade--Time series (1950-65) on acreage, yield, and production of major crops; population; and national income were prepared for the countries of Europe and the Soviet Union for use in a study for AID on the demand for agricultural products from the less developed countries. In addition, time series on production of livestock products and trade in agricultural products by country of origin or destination were prepared for the countries of Eastern Europe and the Soviet Union.
4. Agricultural Production Indices (continuing project)--The annual index developed for Greece indicates that production continued to rise during 1966.
5. Livestock Productivity Studies--Studies were completed for Spain, Greece, and Yugoslavia.
6. Agricultural Market Potential in Eastern Europe--This project analyzes data on agricultural production, consumption, and trade to assess market opportunities in this area. Trade data has been analyzed for trends and shifts by commodity, but the emphasis has been on aggregative dollar sales rather than on specific commodities. Policy decisions affecting U.S. trade with Eastern Europe have been reviewed.

C. Far East Branch

1. Far East and Oceania Agricultural Situation (continuing project)--Agricultural production in the Far East gained less than one percent in 1966. Substantial increases were made in the Philippines, South Korea, Thailand, and the States of Malaya, but India's output fell again after a second year of severe drought. In South Vietnam production declined for the third consecutive year. Australia showed a sharp gain largely resulting from a wheat harvest far above all previous records.

2. Agricultural Policies in the Far East and Oceania (continuing project)--This report reviews those policies that may have a significant impact on the level or composition of agricultural production in the Far East and Oceania or on U.S. agricultural exports. Most countries of the Far East have overall economic development plans and most of these depend upon substantial external assistance. Expansion of food production is given high priority with a view towards reduction of dependence on foreign sources. Most countries have controls on imports in order to conserve foreign exchange.
3. Agricultural Production Indices (continuing project)--Indices of agricultural and food production were calculated for 15 countries from preliminary data early in the fall for AID. At year-end they were recalculated from revised data for our Far East and Oceania Agricultural Data Book.
4. Improvement of Statistical Records (continuing project)--Work progressed in the development of basic statistical records needed for analysis of agricultural developments, preparation of scheduled and special reports, and support of our service work. Records are being built to include data on production, trade, and prices
5. Crop Productivity Indices--Indices were calculated to determine trends in area, production, and yields for principal crops in Ceylon from 1948 to 1966. There have been significant gains in yields, but no improvement in per capita output.
6. Highlights of Agriculture and Trade--Fourteen brief country studies were prepared for Foreign Agriculture.

D. Western Hemisphere Branch

1. Western Hemisphere Agricultural Situation (continuing project)--Economic expansion continued in 1966 with an indication of some weakening in growth trends during the past two years. Agricultural output for Canada set a new record in 1966, but fell 3 percent for Latin America primarily because of a sharp decline in Brazilian coffee output. Preliminary information for the midyear review indicates that Canadian output will be down in 1967 and that Latin American production will recover.
2. Agricultural Policies of Foreign Governments in the Western Hemisphere (continuing project)--This report was published in October. Trade policies continue to reflect dependence on agricultural exports and production of domestic industries. Economic integration efforts include the Central American Common Market, the Latin American Free Trade Association, and the developing Latin American Common Market. Many of the trade preference arrangements of these integration efforts have been modified or nullified by the application of escape clauses or by state trading and bilateral agreements.

3. Agricultural Production Indices (continuing project)--Price weights were reviewed and adjusted. Canadian production indices were calculated on the same basis as those for Latin America for comparison and for possible inclusion in future annual reports.
4. Improvement of Statistical Records (continuing project)--The collection and analysis of basic statistics for country data books continued, with priority given to Canada, Mexico, Argentina, Brazil, and Venezuela. Efforts are being made to expand coverage and to improve the compatibility of data for country and regional comparisons.
5. Crop Productivity Indices--Indices prepared for 7 of the countries analyzed in Changes in Agriculture in 26 Developing Nations, 1948-1963 (FAER No. 27, November 1965) and indices subsequently calculated for 12 other less developed countries and Puerto Rico are being revised. The revision of the Brazilian index has been completed.
6. Livestock Productivity Studies--Revisions were made in the analysis of trends (1950-64) for 5 countries.
7. Country Studies
 - a. Panama--Economic growth and population gains have resulted in rapid increases in the demand for agricultural products and imports of U.S. farm products have increased.
 - b. British Honduras--Preliminary results indicate that efforts to increase agricultural output are meeting with some success, but large food deficits continue to provide opportunities for U.S. exports of wheat flour and other temperate zone products
 - c. Ecuador--Preliminary results indicate a steady decline in economic growth in the last decade. Agricultural production trends are mixed but have generally kept up with rapid population growth. However, food output has lagged behind population growth since 1964 and imports have increased rapidly.
 - d. Puerto Rico--The contribution of agriculture to GNP continues to decline and food imports from the U.S. mainland have grown as a result of rapidly increasing demand.
- E. World Agricultural Situation (continuing project)--Principal production gains in 1966 were among the food commodities--cereals, edible oilseeds, and sugar. Among the non-food commodities, there were large declines in world output of coffee and cotton.

World wheat stocks are expected to recover in 1967 from the low level of 1966. Record crops of wheat were harvested in the USSR, Canada, and Australia. Although import requirements will remain high in India and

Mainland China, Eastern Europe's requirements have been reduced sharply and the USSR probably will again become a net exporter of wheat.

U.S. feed grain exports will face strong competition in 1966/67. The outlook is more favorable for U.S. exports of cotton, oilseeds and products, and flue-cured tobacco.

- F. Preferential Trade Arrangements and U.S. Agriculture--Since the imposition of variable levies on grain in 1962, the United States has been able to increase its share of EEC grain imports largely because our competitors were short of grain. Although Commonwealth preferences continue to impede certain U.S. agricultural exports to the United Kingdom, increased U.K. self-sufficiency appears to have caused the greater damage to U.S. trade in the U.K. market in recent years. Japan has liberalized its restrictions on imports of many major agricultural products but continues to make extensive use of bilateral trade arrangements, a form of discrimination that is difficult to counter. The less developed countries of the world belong to a wide variety of preferential trade associations but, thus far, it does not appear that the trade of many of these countries has benefited from these associations.

PUBLICATIONS REPORTING RESULTS OF USDA RESEARCH

Africa and Middle East

- Africa and Middle East Branch. The Africa and West Asia Agricultural Situation, Review of 1966 and Outlook for 1967. U.S. Department of Agriculture. ERS-Foreign 186, 80 pages, 1967.
- Africa and Middle East Branch. Indices of Agricultural Production in 29 Countries. U.S. Department of Agriculture, 65 pages, 1966.
- Africa and Middle East Branch. Indices of Agricultural Production in 10 Near East Countries. U.S. Department of Agriculture, 34 pages, 1966.
- Marx, Robert E. Africa's Agricultural Trade. 1 page. (Foreign Agriculture, November 7, 1966).
- Moe, Lyle E. African Oilseeds Rate High as Foreign Exchange Earners. 2 pages. (Foreign Agriculture, November 7, 1966).
- Moncure, Robert C. Botswana and Lesotho Join the Ranks of Africa's Free Nations. 1 page. (Foreign Agriculture, November 7, 1966)
- Moncure, Robert C. Highlights of the Agriculture and Trade of the United Arab Republic. 1 page. (Foreign Agriculture, January 30, 1967).
- Santmyer, Carolee. Northern Africa Seeks the Key to Economic Growth. 3 pages. (Foreign Agriculture, November 7, 1966).

- Santmyer, Carolee. Highlights of the Agriculture and Trade of Tunisia. 1 page. (Foreign Agriculture, January 2, 1967).
- Singleton, Carey B. Jr. An Agricultural Safari Through East Africa's Great Rift Valley. 3 pages. (Foreign Agriculture, November 7, 1966).
- Singleton, Carey B. Jr. Highlights of the Agriculture and Trade of Tanzania. 1 page. (Foreign Agriculture, January 9, 1967).
- Skinner, Snider W. Changing Africa: A New Agricultural Geography. 5 pages. (Foreign Agriculture, November 7, 1966).
- Skinner, Snider W. Coffee Now Stands in First Place Among African Farm Exports. 1 page. (Foreign Agriculture, November 7, 1966).
- Skinner, Snider W. Highlights of the Agriculture and Trade of the Ivory Coast. 1 page. (Foreign Agriculture, December 5, 1966).
- Skinner, Snider W. Highlights of the Agriculture and Trade of Nigeria. 1 page. (Foreign Agriculture, December 9, 1966).
- Teaford, Mary L. Highlights of the Agriculture and Trade of The Congo (Kinshasa). 1 page. (Foreign Agriculture, December 12, 1966).
- Tegeler, Henrietta H. Highlights of the Agriculture and Trade of Israel. 1 page. (Foreign Agriculture, November 21, 1966).
- Tegeler, Henrietta H. Highlights of the Agriculture and Trade of Turkey. 1 page. (Foreign Agriculture, November 28, 1966).
- Treakle, H. Charles. Highlights of the Agriculture and Trade of the Sudan. 1 page. (Foreign Agriculture, January 16, 1967).
- Warren, Cline J. Highlights of the Agriculture and Trade of the United Arab Republic. 1 page. (Foreign Agriculture, January 23, 1967).

Europe and Soviet Union

- Europe and Soviet Union Branch. The Europe and Soviet Union Agricultural Situation, Review of 1966 and Outlook for 1967. U.S. Department of Agriculture. ERS-Foreign 185, 115 pages, 1967.
- Brown, G. Stanley. Soviet Agriculture After Khurshchev - A Brief Survey. 4 pages. (Foreign Agriculture, March 13, 1967).
- Brown, G. Stanley. Soviet Agriculture After Khurshchev - A Brief Survey. 1 page. (Farm Index, June, 1967).
- Hedges, Brian D. The EEC Revises Its Agricultural Projections for 1970. 3 pages. (Foreign Agriculture, December 12, 1967).

Tsu, Sheldon. Financial Aid Pouring Into Flood-Stricken Farm Areas of Italy.
1 page. (Foreign Agriculture, March 27, 1967).

Walters, Harry. Soviet Union Adopts Major Soil Erosion and Irrigation
Program. $\frac{1}{2}$ page. (Foreign Agriculture, May 22, 1967).

Far East

Far East Branch. The Far East and Oceania Agricultural Situation. U.S.
Department of Agriculture. ERS-Foreign 188, 31 pages, 1967.

Far East Branch. Indices of Agricultural Production for East Asia. U.S.
Department of Agriculture. 25 pages, 1966.

Far East Branch. Indices of Agricultural Production for South Asia. U.S.
Department of Agriculture. 6 pages, 1966.

Far East Branch. The Far East and Oceania Agricultural Data Book. U.S.
Department of Agriculture. ERS-Foreign 189, 61 pages, 1967.

Barry, Goodloe. Highlights of the Agriculture and Trade of Indonesia.
1 page. (Foreign Agriculture, February 20, 1967).

Barry, Goodloe. Highlights of the Agriculture and Trade of the Philippines.
1 page. (Foreign Agriculture, February 27, 1967).

Larsen, Marion R. North Vietnam Still Unable to Produce Enough Food. 2 pages.
(Foreign Agriculture, October 10, 1966).

Larsen, Marion R. Highlights of the Agriculture and Trade of Mainland China.
1 page. (Foreign Agriculture, May 22, 1967).

Logan, William J.C. Highlights of the Agriculture and Trade of South Viet
Nam. 1 page. (Foreign Agriculture, March 27, 1967).

Logan, William J.C. Highlights of the Agriculture and Trade of Thailand.
1 page. (Foreign Agriculture, April 3, 1967).

Logan, William J.C. Highlights of the Agriculture and Trade of Taiwan. 1
page. (Foreign Agriculture, May 1, 1967).

Logan, William J.C. Highlights of the Agriculture and Trade of South Korea.
1 page. (Foreign Agriculture, May 8, 1967).

Logan, William J.C. Highlights of the Agriculture and Trade of Burma. 1
page. (Foreign Agriculture, May 15, 1967).

Long, Mary E. Highlights of the Agriculture and Trade of Japan. 1 page.
(Foreign Agriculture, February 13, 1967).

- Long, Mary E. Southeast Asian Nations Take First Step Toward Agricultural Cooperation. 1 page. (Foreign Agriculture, February 13, 1967).
- Long, Mary E. Highlights of the Agriculture and Trade of Australia. 1 page. (Foreign Agriculture, April 17, 1967).
- Long, Mary E. Highlights of the Agriculture and Trade of New Zealand. 1 page. (Foreign Agriculture, April 24, 1967).
- Parker, John B. Highlights of the Agriculture and Trade of Pakistan. 1 page. (Foreign Agriculture, March 6, 1967).
- Parker, John B. Highlights of the Agriculture and Trade of India. 1 page. (Foreign Agriculture, March 13, 1967).
- Parker, John B. Highlights of the Agriculture and Trade of Ceylon. 1 page. (Foreign Agriculture, March 20, 1967).
- Pike, Clarence E. Taiwan's Economic Growth Changes Its Export Pattern. 2 pages. (Foreign Agriculture, January 16, 1967).
- Pike, Clarence E. Korea Today: Both Agriculture and Industry are Expanding. 2 pages. (Foreign Agriculture, January 23, 1967).
- Pike, Clarence E. Burma Fails to Make the Best Use of Its Natural Resources. 2 pages. (Foreign Agriculture, January 30, 1967).
- Pike, Clarence E. Indonesia Striving to Pull Out of Economic Tangle. 2 pages. (Foreign Agriculture, February 6, 1967).

Western Hemisphere

- Western Hemisphere Branch. The Western Hemisphere Agricultural Situation, Review of 1966 and Outlook for 1967. ERS-Foreign 187, 55 pages, 1967.
- Western Hemisphere Branch. Indices of Agricultural Production for the 20 Latin American Countries, 1967. U.S. Department of Agriculture. ERS-Foreign 44 (Revised) 49 pages, 1967.
- Corner, Mary S. The Agriculture and Trade of Panama. U.S. Department of Agriculture. 27 pages, 1967.
- Bennett, Gae A. Highlights of the Agriculture and Trade of Colombia. 1 page. (Foreign Agriculture, October 3, 1966).
- Buck, Wilbur F. Highlights of the Agriculture and Trade of Canada. 1 page. (Foreign Agriculture, October 31, 1966).
- Coyner, Mary S. Highlights of the Agriculture and Trade of Mexico. 1 page. (Foreign Agriculture, October 10, 1966).

Coyner, Mary S. Highlights of the Agriculture and Trade of Guatemala. 1 page.
(Foreign Agriculture, October 17, 1966).

Coyner, Mary S. Highlights of the Agriculture and Trade El Salvador. 1 page.
(Foreign Agriculture, October 24, 1966).

Davenport, Charles R. Latin America in 1966: Economic Growth Loses Momentum.
4 pages. (Foreign Agriculture, April 10, 1967).

Magleby, Richard S. Agricultural Geography: Latin America in Transition.
3 pages. (Foreign Agriculture, April 10, 1967).

Woodard, Alyce. U.S. Farm Trade with Western Hemisphere Rose in 1966. 3
pages. (Foreign Agriculture, May 8, 1967).

World

Foreign Regional Analysis Division. The World Agricultural Situation, Review
of 1966 and Outlook for 1967. U.S. Department of Agriculture. Foreign
Agricultural Economic Report No. 33, 41 pages, January 4, 1967.

Foreign Regional Analysis Division. Current World Food Situation. U.S.
Department of Agriculture. 4 pages. (National Food Situation, NFS-119,
February 1967).

AREA NO. 2 -- DEMAND FOR AND COMPETITION WITH
U.S. AGRICULTURAL EXPORTS

PROBLEM

In many foreign markets United States farm products are facing a change in the competition or demand situation that directly affects their sales. There is a growing volume of requests for information on foreign competition and demand arising from political and economic developments abroad. The problem is to provide an appraisal of developments by country and region in agriculture and in the overall economies of foreign countries in order that American farmers, agricultural export interests and governmental agencies may take advantage of opportunities for developing new and maintaining or expanding existing foreign markets for U.S. farm products.

USDA PROGRAM

In line with the growing need for information on foreign competition and demand, the USDA has a continuing program to conduct research and disseminate information in this area. Research projects are generally organized within the four Regional Branches although work on commodities cuts across regional lines. In the period covered, this work has required 9 scientific man-years annually in Washington, and contracts for research averaging about 5 scientific man-years annually.

Work in this area includes analysis of:

- (1) Trends in demand, supply and trade of farm products within our major markets; growth of population and income; financial and trade policies which affect agricultural trade; effects of changes in marketing, consumption, prices, stockpiling and trade patterns on U.S. farm exports.
- (2) Agricultural developments within countries which are major competitors with the United States in world agricultural markets; changing production and trade patterns caused by rising productivity and adjustments in cost-price relationships; market organization and export promotion; and other measures which encourage agricultural production and trade.
- (3) World production of and trade in agricultural commodities. Data are maintained for commodity groups in a program of continuing commodity analysis relating to foreign market demand and world food and fiber needs. Such data also supply the basis for projection work of the Division.
- (4) Agricultural developments in the less developed countries, particularly as they relate to requirements for food.

PROGRAM OF THE STATE EXPERIMENT STATIONS

The Illinois station completed a study to assess the impact of economic development in Sierra Leone on export markets for U.S. agricultural commodities. Expected changes in national income, foreign trade, and other economic factors are indicated. The study also dealt with developments and future alternatives in production, marketing, financing, institutional organization, and social barriers. Further research on countries of West Africa will continue.

USDA PROGRESS

A. Africa and Middle East Branch

1. Agricultural Development Within the Nile Basin--This study will define the major agricultural development projects within the Nile Basin and determine the magnitude of increased agricultural production likely to result from these projects. The competitive aspect of this increased production on U.S. farm exports will be assessed. Much of November and December 1966 was spent in the field collecting data for this study. The first draft of the study was approximately 75 percent complete as of June 30.
2. Effect of Oilseed Production Potential in Selected African Countries on U.S. Exports to the European Economic Community--This contract study projects the production of peanuts by Senegal and Nigeria to increase at a faster rate through 1975 than oil palm products produced by Nigeria and the Congo (Kinshasa). Total exports of oils and oilseed equivalent for the three countries are expected to increase about 37 percent from 1959 to 1975. The study concludes that the United States will increase its exports of soybean meal relative to soybeans and that U.S. exports of vegetable oils to the EEC will decline.
3. Planning the Economic Development of Tanzania, 1970-1980--This study examines the problems of changing Tanzania's subsistence agriculture into a market economy. Tanzania needs more agricultural production both for cash markets and domestic consumption. Population is growing about 3 percent per year and urbanization is increasing. Rapid increases in the domestic demand for agricultural products, especially wheat and corn, are expected in the near future. The first draft of this study has been completed. Publication is planned for FY-1968.
4. Location and Evaluation of Research on the Agricultural Economies of the French, English, and Portuguese Speaking Countries of Africa--The contract for this study was signed in May 1967 with the University of Oxford. A comprehensive survey and evaluation of pertinent agricultural economic studies is to be completed by January 1968.

B. Europe and Soviet Union Branch

1. A contract with Oxford University for conducting a comprehensive survey of European agricultural economic studies in the EEC has been completed. An annotated bibliography of these studies, along with some additional studies, is being prepared for publication.
2. A contract is in effect with Stanford Food Research Institute for supplying information on trends in grain production in France and West Germany and appraising the probable effects of proposed Common Market agricultural policies on future grain production and trade in these countries. Parts of this study have already been published, additional publications will be forthcoming, and the project will be completed in FY-1968.
3. A contract is in effect with the Giannini Foundation, University of California for studying production and trade policies for fruits and vegetables in Italy. The study will examine the influence of the Common Market on demand for fruits and vegetables and the resulting impact upon the market for California fruits and vegetables. This project is scheduled for completion in FY-1968.
4. A contract with Cornell University provides for the preparation of livestock-feed balances for the United Kingdom, Netherlands, West Germany, Italy, France, Belgium, Spain, Denmark, and Switzerland. This project will bring together annual livestock feed requirements, domestic feed production, and feed imports for use in forecasting probable feed imports. The report for the United Kingdom is in the process of being printed and a draft of the report for Netherlands is near completion.
5. Factors Influencing Markets for U.S. Agricultural Products in Yugoslavia--The study, prepared by Agra Research Inc., showed that U.S. aid, totaling well over \$1.3 billion for the period 1950-65, represented a major contribution to Yugoslavia's economic development. The relative importance of U.S. commodity aid declined from a high of 36 percent of total imports in 1953 to 6 percent annually for 1964-1965. Increased domestic production of major crops and livestock products has decreased Yugoslavia's dependence on U.S. aid. A small commercial market for grains, oilseeds, and cotton has developed.
6. Factors Affecting the Demand, Supply, and Trade of Agricultural Commodities in the EEC, and Some Current Projections--This study (unpublished) reviewed and compared the major studies dealing with the subject. Various projections of 1970 grain consumption (excluding rice) range from about 71.8 to 74.6 million metric tons. Indigenous grain production, under varying assumptions, was projected to range from 63.4 to 69.4 million metric tons. Beef and veal shortage will persist throughout 1970 while milk surpluses are likely to increase.

7. Outlook for U.S. Trade in Selected Livestock Products in FY-1967-- These papers analyze briefly the major developments affecting U.S. trade (exports and imports) in: (1) beef and veal, (2) pork, (3) poultry meat, and (4) hides and skins. The analysis indicated larger imports of beef and veal, increased exports of lard and pork, poultry meat, and hides and skins.
8. Outlook for U.S. Feed Grain Exports in FY-1967--This paper analyzed the U.S. feed grain export potential in light of the 43 percent increase in the volume of exports in 1965/66. An estimate for 1966/67 was made from data associated with the foreign demand for meat, the world supply situation for livestock feeds, and changes in livestock numbers. The forecast for 1966/67 was for a downturn in U.S. feed grain exports.
9. The Food Industry in Western Europe and Japan--This is a brief analysis of recent progress in the food production and processing industries of Western Europe and Japan. Important food processing advances are being made and self-service and supermarket operations are showing considerable expansion.
10. National Agricultural Subsidies in an EEC Framework--This is a brief study of some of the agricultural subsidies applied by member nations. The conclusions are that some subsidies of member country must be abolished if intracommunity competition is not to be distorted. Many other subsidies may be continued, however, and constitute only a small part of total aids to agriculture.
11. U.S.-EEC Tobacco Trade and the Common Agricultural Policy--This paper describes the possible nature of the proposed common tobacco policy of the EEC in the context of U.S. trading interests in this largest foreign market for U.S. tobacco. The paper concludes that many proposed features of the policy are objectionable because of their unfavorable impact on U.S. exports.

C. Far East Branch

1. The Competitive Position of U.S. Farm Products in the Japanese Market-- This study reveals that the Japanese market for imported farm products is expected to grow rapidly and that the U.S. has the opportunity to share fully in this growth. Competition faced by U.S. exports varies widely between commodities. Competition has become very keen in the case of cotton, whereas soybean exporters have faced competition from only one other producer--Mainland China--and the availability from that source has not expanded significantly while Japanese demand has increased steadily. An outstanding example of the expansion possibilities offered by Japan is feed grains, the demand for which has multiplied several times in recent years to meet the requirements of the rapidly expanding poultry and livestock industries.

2. China's Agriculture Under Communism--This study analyzes the agricultural and food situation in Mainland China since the communist takeover in 1949. The study was particularly difficult because of the lack of basic statistics on farm production and population in the pre-communist era and the secretiveness regarding such matters on the part of the communist government.

Many noteworthy changes have taken place under the communists. Major emphasis has been placed on socializing the farm sector of the economy. In recent years there has been a shift of foreign trade from the Soviet Union to free world sources. Since the beginning of the 1960's, Mainland China has switched from a net food grain exporter to become one of the world's largest cash markets for food grains.

3. Australian Competition in the Market for Farm Products in Far East Countries--Major changes have occurred in the destination of Australia's farm exports. An increasing proportion of total exports go to Far East markets. Australian government policy is to increase trade with this area of the world. Developments in the Commonwealth including the possibility that the United Kingdom, traditionally Australia's major export outlet, might join the EEC have contributed to the desire to increase exports to the Far East area. The most important markets in the region are Japan and Mainland China. Australia-U.S. competition involves wheat, barley, meats, tallow, hides and skins, fruits, poultry and dairy products. This study will be published during the coming year.

D. Western Hemisphere Branch

1. The Agricultural Economy of Brazil-Competition and Demand--Agricultural output continues to show rapid gains and to account for a large share of GNP and export earnings. Total agricultural exports have been remarkably stable in the last decade, but the importance of coffee and cocoa has declined in favor of cotton, sugar, sisal, tobacco, and other products. Total agricultural imports, particularly wheat, have increased; imports of canned fruit, fresh vegetables, fats and oils, and processed foods have also grown. The value of U.S. agricultural imports from Brazil has declined significantly; decreases in coffee and cocoa beans have more than offset rapid gains in sugar and other products. P.L. 480 exports, principally wheat, have resulted in a tripling of U.S. agricultural exports to Brazil in the last decade.
2. Competitive Aspects of Argentine Agriculture--A review draft was completed in the report period. Steady gains in agricultural output in the 1960's and increased emphasis on agriculture point to increased competition with U.S. agricultural exports in the years ahead. Principal competition is expected in grains, oilseeds, livestock, and livestock products.

3. Competitive Aspects of Canadian Agriculture--This project was initiated in 1966. Canada is important to U.S. agriculture as a competitor, customer and supplier. Competition is greatest in the United Kingdom and Western European markets for wheat, other grains, vegetable oils, and a number of other commodities. Canada is the second most important market for U.S. agricultural exports and the United States usually is Canada's most important export market for farm products.
4. Mexican Agriculture-Its Competitive Position--This project was initiated in 1964 but has been delayed by the higher priority of other work and problems with basic data. A rapid expansion in both economic and agricultural output continues. Mexico became an important exporter of wheat and wheat seed starting in 1964 and is expected to provide increasing competition in cotton, cereals, and winter fruits and vegetables. U.S. agricultural exports to Mexico declined in the first half of the past decade but have rebounded in the last 2 years.

PUBLICATIONS REPORTING RESULTS OF RESEARCH

USDA

Africa and Middle East Branch

Berg, Eric R. Nigeria, Senegal, and the Congo (Kinshasa): Projected Level of Demand, Supply, and Exports of Oilseed Products to 1975 with Implications for U.S. Exports to the European Economic Community. 78 pages. Manning-Berg Research Associates Ltd., Edmonton, Alberta, Canada, 1967.

Singleton, Carey B. A Land With Agricultural Potential Despite Massive Erosion. 2 pages. (Foreign Agriculture, April 17, 1967).

Warren, Cline J. Egypt May Finish its New High Aswan Dam Ahead of Time. 2 pages. (Foreign Agriculture, February 27, 1967).

Warren, Cline J. Two New Dams Augmenting Sudan's Irrigated Farmland. 2 pages. (Foreign Agriculture, June 26, 1967).

Europe and Soviet Union Branch

Hedges, Brian D. The EEC Revises its Agricultural Projections for 1970. 3 pages. (Foreign Agriculture, December 12, 1966).

Far East Branch

Larsen, Marion R. Agriculture's Role in Mainland China's Changing Trade. 2 pages. (Foreign Agriculture, May 1, 1967).

Larsen, Marion R. Agriculture's Position in Mainland China's Economy. 2 pages. (Foreign Agriculture, April 3, 1967).

Larsen, Marion R. China's Agriculture Under Communism. Joint Economic Committee, Congress of the United States. 72 pages, February 1967.

Spurlock, Hughes H. The Competitive Position of U.S. Farm Products in the Japanese Market. U.S. Department of Agriculture, FAER 32, 117 pages, November 1966.

RELATED PUBLICATIONS OF STATE EXPERIMENT STATIONS

Due, Jean M. Changes in Incomes and Imports of Consumer Goods in Sierra Leone, University of Illinois, College of Agriculture, Agricultural Experiment Station, Bulletin 719, 64 pages. 1966.

AREA NO. 3 -- LONG-RANGE OUTLOOK FOR U.S. AGRICULTURAL EXPORTS

PROBLEM

In the first half of the 1960's supplies of U.S. agricultural products were greatly in excess of domestic needs. As a result, domestic programs for curtailing U.S. output and for increasing exports were essential to the welfare of agriculture and the national economy. By 1966 the problem changed from that of disposing surpluses to managing prudently U.S. resources to meet increasing world food needs. This turnabout resulted from a combination of successful curtailment of domestic production, increased commercial exports to developed nations, and increased food-aid to less developed nations. The problem now and for the future is how the United States should harness its productive capacity to meet world food needs efficiently without recurring cyclical shortages and surpluses.

Knowledge of supply and demand trends and import requirements in foreign countries and the location of new opportunities for U.S. farm exports is essential if the United States is to develop its farm exports to the fullest extent consistent with the economic utilization of U.S. agricultural resources.

Record exports of U.S. farm products, valued at \$6.8 billion in FY-1967 and with prospects of over \$8 billion in 1970, contribute substantially to the income of U.S. agriculture and industries engaged in processing and merchandizing farm products. They are also an important element in foreign exchange earnings.

USDA PROGRAM

The Department has a long-term program for projecting foreign supply, demand, and trade of selected farm products and for relating world import needs to U.S. exports of farm products. The total research program involves 8 scientist man-years annually in the Department of Agriculture to perform economic research in Washington and also to develop and supervise research programs abroad performed by research institutions on a contract basis under Section 104(a) of Title I, P.L. 480. The contract research involved about 25 scientist man-years during the reporting period.

The research program covers four areas:

1. World Food Needs: Research in this area is a continuation of the work of the world food budget initiated in 1961. The work on the world food budget involves publishing every five years a comprehensive summary of world food needs, by countries and major subregions of the world. This program, which projects food needs five or more years ahead, was initially developed to expand food consumption in the world, to help provide an adequate diet, and to help use our food abundance to build sustained economies in the less developed countries. The last detailed projections for 1970 were published in 1964. With world food needs a continuing and

changing problem, periodic analyses are made updating parts of the comprehensive study for use in special studies for administrators, other agencies, task forces and other requestors. This also involves making preliminary estimates to 1975 and 1980 to meet the growing demand for projections of world food needs.

These analyses assess and evaluate food needs in less developed countries in relation to nutritional needs, supply-demand balances, import requirements, and the extent to which these nations can improve their production without raising food costs unduly.

2. Projections of U.S. Exports of Farm Products: Work in the second research area involves annual projection of exports of leading U.S. agricultural commodities by quantity and value. This work is related to that of economic analysts in the Department working on U.S. agricultural output and availabilities for export. Together they provide the long-range outlook for U.S. farm commodities. This work includes projections based upon various assumptions as to programs and prices of leading U.S. products in the world market. It is entirely performed in Washington by the Department of Agriculture with departmental personnel.
3. World Supply and Demand Projections: Work in the third research area deals with long-term projections of foreign supply and demand. This involves contracting with competent research organizations for comprehensive country studies to analyze and project ahead to 1970, 1975 and in recent studies to 1980 the import demand and export availability of agricultural products which are important U.S. export commodities. The Division plans, supervises and reviews the studies at different stages of development. Results are published initially in reports, largely as submitted by Contractor. Another document is prepared by the Foreign Regional Analysis Division which summarizes, analyzes, and evaluates the results of the study and spells out the implications for U.S. agriculture. The research also involves utilizing and integrating the results of these country studies into our regular projections work and special studies of major regions and for the world. The actual performance of the research within foreign countries is carried out by research-contractors who are paid with foreign currency generated from exports under Title I of P.L. 480.
4. Demand for Agricultural Exports of Less Developed Countries: Research in the fourth area involves projections of immediate and long-term world demand prospects for products exported by less developed countries. This ERS research for AID is being done in cooperation with the Foreign Development and Trade Division. The work also involves developing an analytical framework for making projections. These projections of import demand, together with projected export supplies will be used as a basis for evaluating the effects of trade policies on potential export earning of less developed nations.

PROGRAM OF STATE EXPERIMENT STATIONS

The State Experiment Stations report no research under this specific classification.

PROGRESS IN USDA AND FOREIGN RESEARCH CONTRACTORS' PROGRAMS

A. World Food Needs

Much attention has been given recently to the world food problem. Interest and concern has been focused on the situation in the less developed countries and on whether the world will be able to produce enough food to sustain probable increase in population and to support desired or satisfactory rates of economic development in the developing nations. As a result, considerable effort was placed on assessing and evaluating food needs in the less developed countries. Improvements in the inadequate diets has come about through increased imports largely in the form of food aid as production in these countries had barely kept pace with population growth. In addition, special emphasis was given to bringing into perspective the growing food needs of the developing importing countries in relation not only to U.S. capacity to produce but the capacity of the other developed exporters and importers.

A special study was submitted to the President's Science Advisory Committee Panel on the World Food Supply. This study made projections for production, trade and use of grains for 1980 by major regions of the world. Projections for the less developed world were made under several alternative assumptions.

This study showed that it would take up to two decades to bring the diets of the less developed countries (LDC's) up to levels considered nutritionally desirable if recent trends in production and consumption were allowed to continue. However, under the assumption that strong pressures for more emphasis on agriculture in the LDC's will have positive effects, improvement in consumption to more desirable levels would be reached in somewhat less time. Under this assumption, the United States would export about 84 million metric tons of grain in 1980, well within the productive capacity of the United States. This compares with exports of 50 million in 1965/66 and 38 in 1964/65.

To assess the world capacity to meet growing food needs, particularly in the less developed countries, a special study was made of world production, consumption and trade to 1980 under alternative economic growth assumptions. This study indicated that the world will have ample grain output capacity through 1980, and that productive capacity in the developed nations could easily meet the import needs of the less developed countries even if the developing countries fail to boost their growth rates in production. Any problems of food shortages would arise out of the distribution of productive capacity or of commodities among countries. Thus the world food

problem is basically one of disparity of food production and food availabilities between the developed and developing nations. The proportion of the capacity of the developed countries which will be used will depend on production and trade prospects and government policies. This study confirms the conclusion that the solution to the food problem in the less developed importing countries is accelerated food production in those countries.

B. Projections of U.S. Exports for Farm Products

As part of the ERS responsibility for making international trade projections, several projections of U.S. agricultural exports under alternative assumptions have been made to answer specific requests and for administrative use. For example, as part of our program of providing research results directed toward policy decisions, a detailed analysis was made of the prospects for grain production, consumption and import requirements for 29 P.L. 480 aid-recipient countries through 1973. These findings were used in a special study sent to the Bureau of Budget and were used as an aid for determining P.L. 480 commitments of grains to these countries. This study was concerned with the relation between commercial and food aid shipments to these countries as related to their production and consumption prospects.

To serve as a basis for determining P.L. 480 needs in AID recipient countries considerable time was spent in the development of import needs under the next five years. In 29 aid-recipient countries this study projected production, consumption and trade under alternative levels and related the import requirement to these production and consumption levels. It also was concerned with the amount of commercial exports in relation to P.L. 480 commitments. This study provided the basis for determining the level of P.L. 480 that would be needed in each country to maintain the projected consumption used in this study.

A special report was prepared which evaluated the relative importance of the principal grain exporting countries competing with the United States for the grain export market. This study showed that Canada, Argentina, and Australia have considerable grain production potential as indicated by the rapid increase in production in these countries during the 1960's. This rapid increase in production was in response to the unusual import demand of USSR and China. The increase was made possible by sharp increases in use of fertilizer in Australia and Canada, considerable expansion of acreage in Australia and some in Argentina, and improved varieties in Argentina. The study indicated that some reduction in market outlets for our major competitors as USSR became a net exporter. Unless policies in these exporting countries were geared to balance world supplies with world demand the U.S. would be faced with difficulty of balancing the whole world by itself.

A special study was also made to reassess the potential grain production of the USSR to 1970 following the bumper crop of 1966. The inquiry was to

determine whether the record crop was due mainly to favorable weather. The study indicated that there had been a change in policy with greater emphasis on agricultural inputs. If this policy continues we could expect higher levels of production from the USSR. Thus USSR likely would be a net exporter rather than a net importer.

This Division also participated in a task force study group which analyzed the world supply and demand position for cotton and made projections to 1980 of U.S. exports of cotton for the Food and Fiber Commission.

C. Long-Term Projections of Supply and Demand

Utilizing Section 104(a), Title I, P.L. 480 funds, basic country studies are carried out under contract by research organizations with adequate facilities and familiarity with the problems to be studied. The contractor is usually an organization in the country being studied. Work included development of plans of work in cooperation with the contractor for studies initiated during the current reporting period. These plans aid in keeping the various country studies in line with the general framework previously developed.

Consultations on research and technical problems were held from time to time with research workers in the contracting agency. Required progress reports were reviewed and analyzed. Considerable time was spent in critical review and assistance in preparation of final drafts of these country studies. Cost of the studies varies widely, depending on the availability and reliability of data and the extent to which the data can be utilized for time series, cross-sectional and other projectional analysis. Time involved with studies varies from 18 to 36 months.

1. Studies Published: 10/1/66 to 7/1/67

- a. Australia: Long-term Projections of Agricultural Supply and Demand. The final report has been published (Long-Term Projections of Agricultural Supply and Demand, Australia 1965 to 1980). The contractor was Monash University, Clayton, Victoria, Australia. The Project Director was Professor Fred H. Gruen.

The findings project a growing and dynamic Australian economy. With population increasing at approximately 2.1 percent annually and the Gross National Product (GNP) projected to increase at an annual rate of about 4.5 percent, the 1980 per capita GNP is expected to be sixty percent greater than the base period average (1958-59 to 1961-62). Despite the projected increased domestic demand for most commodities, exports are shown to increase significantly for wheat and most other grains and for beef and veal as well as for tallow, cattle hides and eggs. Moderate export gains are projected for fruits (canned fruits being an upward exception) and for meats other than beef and veal. Decreases are projected for the exports of dairy products and for the imports of both cotton and tobacco.

- b. India: Effects of Economic Development Upon the Demand for Agricultural Products. The final report has been published (All India Consumer Expenditure Survey Volume II, Patterns of Income and Expenditure). The contractor was The National Council of Applied Economic Research (NCAER), New Delhi, India. The Project Director was Mr. I.R.K. Sarma, Senior Economist, NCAER.

The findings of the study reveal that economic development in India results in distinct shifts in consumer consumption expenditure patterns which, in turn, may affect significantly the posture of India's food grain economy; particularly the future volume and pattern of import requirements.

Families in developed areas were found to be better educated, to have higher incomes, to experience a greater degree of upward movement in their income over time, and to spend less of their income on food grains.

Two major shifts in consumer preference were evident in the developmental areas: (1) a shift from cereals, traditionally the mainstay of the diet for an overwhelming majority of Indian families, to other more expensive foods and manufactured consumer goods and services; and (2) a substitution of wheat for rice. The per capita consumption of non-necessities (goods other than food, clothing, fuel, and light) was found to be twice as high in the developmental than in the non-developmental areas.

Demand forecasts for the different commodities obtained on the basis of the income elasticities indicate that demand for human consumption for all cereals in 1970-71 may lie between 85 to 87 million metric tons. The demand for pulses is estimated at approximately 13 million metric tons. A multi-variate regression analysis undertakes to refine and check the projections, based on income change, alone gave partial income elasticity coefficients which indicated that the total demand for all cereals (for human consumption) in 1970-71 maybe as low as 84 million metric tons.

- c. Mexico: Projections of Supply of and Demand for Agricultural Products in Mexico. Two groups working jointly were involved as contractors in the agreement: The Mexican Ministry of Agriculture and the Banco do Mexico, S.A. Joint Directors of the project were Sr. Ing. Emilo Patino and Sr. Victor Urquidi, both of the Bank. The published report was dated August, 1966 and was received from the printer and distributed in March 1967:

Projections through 1975 indicate average annual gains of 3.6 percent for population and 2.3 percent for per capita national income. Individual projections indicate that crop and livestock output will increase at a rate slightly lower than that of aggregate demand for farm products between 1961 and 1975. The index of output is expected to

fall short of total demand by 3.3 percent in 1970 and 8.0 percent in 1975, compared to 1.5 percent in 1960, when the difference was met out of imports. Principal deficits in output are expected to be for meat, milk, certain fruits and vegetables, oilseeds, sorghum, chickpeas, and barley. Main surpluses are expected in wheat, rice, beans, and coffee.

- d. Turkey: Long-term Projections of the Supply of and Demand for Agricultural Products. The contractor was Robert College of Istanbul, Turkey. Dr. Edgar Z. Palmer was responsible for the overall direction of research and for writing the final report. The findings of this study were reported in the previous reporting period. The highlights of the projections to 1975 were that substantial increased import needs for wheat, feed grains, vegetable oils, and meat are anticipated. The gross national product was assumed to increase at an annual rate of 3.7 percent, population was expected to grow at an annual rate of 2.6 percent. A summary of this report and the implications of its findings for U.S. agricultural exports is scheduled for publication in September 1967.

2. Studies Completed: 10/1/66 to 6/30/67

- a. Brazil: Long-term Projections of the Supply of and Demand for Agricultural Products. The contract is with the Getulio Vargas Foundation, Rio de Janeiro. The study was under the direction of Dr. Julian M. Chacel, Head of the Brazilian Institute of Economics of the Foundation. The contract was undertaken June 28, 1961. A preliminary draft report of the study was submitted in March 1966. The final draft was received in June 1967 and is being evaluated prior to probable publication.

Projections indicate growing deficits in domestic production relative to domestic demand for wheat, milk, beef, potatoes, oranges, and lard. Surpluses are indicated for bananas, corn, rice, manioc, cocoa, coffee, sugar, tobacco, and cotton. In addition to a consumer survey, the study presents production functions derived from farm surveys that measure the impact on production of various inputs.

- b. South Africa: Long-term Projections of the Supply of and Demand for Agricultural Products. The contractor is Arthur D. Little, Inc., Cambridge, Massachusetts, Research Director, Mr. Maurice Sorenson. Final alterations to the manuscript were being completed at the close of the reporting period. Publication is expected in August 1967.

South Africa's import needs of wheat, rice, and cotton are expected to increase steadily through 1965. On the other hand, the country's exports of corn, deciduous fruits, citrus fruits, and mohair, all of which compete with similar U.S. products for markets, are projected to increase substantially. The annual population increase is placed at 2.2 percent while the gross domestic product is expected to increase at an annual rate of 4.5 percent through 1975.

- c. United Kingdom: Projected Level of Demand and Supply of Farm Products for the United Kingdom in 1970, 1975, and 1980. Contractor, Agricultural Research Institute, University of Oxford, Oxford, England: Director, Colin Clark. The final report, updating and extending an earlier analysis, was completed in May 1967 and is being reviewed and edited for publication.

The authors project the growth in population to be 7.4, 11.9, and 16.2 percent, respectively, from the base period (1961) to 1970, 1975, and 1980. Both domestic product and private consumption are projected to grow by 28, 43.6, and 59.2 percent, respectively, over the same periods.

The supply and demand for farm products are projected under three different policy assumptions: (1) continuing present policies, with some decline in government supports, (2) changing from deficiency payments to tariff support and tighter quotas, and (3) entry into the Common Market, with EEC grain and dairy levies being reduced. The index of net imports of farm products (1959-63 = 100) is projected to increase to 102.8, 105.6, and 108.5 by 1970, 1975, and 1980, respectively, under assumption 1. Assumptions 2 and 3, in contrast, result in projected indexes of 104.0 and 100.6 for 1975.

- d. West Germany: Long-term development of Demand and Supply for Agricultural Products in the Federal Republic of Germany. Contractor, Institut für Wirtschaftsforschung (IFO), Munich, Germany; Director, Dr. Gunter Zempel. The final report was reviewed, edited, and approved by the Europe and Soviet Union Branch, and is being published in West Germany.

Germany's GNP is projected to increase 4.6 percent annually from 1965 to 1975, and total private consumption to increase 5.7 percent. This study projects very little improvement in self-sufficiency for most commodities studied; in a number of cases a decline is indicated. As incomes rise, consumers are expected to demand more protein foods, fruits, and vegetables, while demand for starchy foods will decline. Demand for grain, oilcake, and tobacco is also expected to increase. To meet the expected demand for animal products in 1975 from domestic production would require 8-9 million tons of imported grain--almost three times the 1960/61-1962/63 imports--and imports of oilcake and high-protein concentrates would be double those in 1960/61-1962/63. The demand for tobacco--one of the major U.S. exports to Germany--are projected to rise to 190,000 tons in 1975, compared with 150,000 tons in 1965.

3. Studies in Progress: Stage of Completion, 6/30/67

- a. Argentina: Long-term Projections of the Supply of and Demand for Agricultural Products. The contract, for a period of 26 months, was

signed April 19, 1966 with the Instituto Nacional de Tecnologia Agropecuario (INTA), Buenos Aires. Dr. Wylan Rolando Otrera is the Director of the study. After an initial delay caused by the change in Government, steady progress is being made.

- b. Belgium: Long-term Projections of the Supply of and Demand for Agricultural Products. Contractor, Studiecentrum voor Economisch en Sociaal Onderzoek (SESO), Antwerp, Belgium; Director, Dr. P.H. Virenque. This study is substantially completed and a preliminary draft is being revised for submission to the Europe and Soviet Union Branch.
- c. Central America: Long-term Projections of the Supply of and Demand for Agricultural Products for Central America (Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, Panama, and the Territory of Belize). The contract is with the Battelle Memorial Institute, Columbus, Ohio. Dr. Odin Wilhelm, Jr., Head of the Agricultural and Food Economics Division, Department of Economics and Information Research, is the study Director. The contract was signed November 19, 1965, for a period of 18 months. A preliminary report has been received and is being evaluated.
- d. Chile: Long-term Projections of the Supply of and Demand for Agricultural Products. The contractor is the Facultad de Ciencias Economicas y Sociales de la Universidad Catolica de Chile, Santiago. Rolf Luders of the Centro de Investigaciones Economica of the Facultad is now in charge of the study. The contract period began May 9, 1962 and the study is to be completed by December 31, 1967. Portions of the study report have been received and are being revised by the contractor.
- e. Colombia: Long-term Projections of the Supply of and Demand for Agricultural Products. The contract is with the Universidad de los Andes, Bogota. Dr. Eduardo Wiesner D., Dean of the Economics Department of the University is in charge. The contract period began November 28, 1960. A report was submitted in November 1964 but returned to the contractor for extensive revisions. Many of the revisions have been completed, but the contractor appears unable to complete the study and termination of the contract is under consideration.
- f. Denmark: Long-term Projections of the Supply of and Demand for Agricultural Products. Contractor, Institute of Economics, University of Aarhus, Aarhus, Denmark; Director, J.H. Gelting; Project Director, Professor Vibe-Pedersen. Some preliminary materials have been received in the Europe and Soviet Union Branch and the Project Director feels the final report will be submitted before the scheduled completion date (December 31, 1967).
- g. Hong Kong: Long-term Projections of the Supply of and Demand for Agricultural Products. The contractor is the Chinese University, Kowloon, Hong Kong. The Project Director is Dr. Choh-Ming Li. The

terminal date has been extended from June 30, 1967 to December 31, 1967 in order to allow time for review and corrections on the final report. The preliminary draft of the final report has been received and is being reviewed.

The report is about 95 percent complete. Professional man-years spent on this study during this reporting period, 5.

- h. India: Updating and Supplementing the Long-term Projection Study Previously Completed. The contractor is the National Council of Applied Economic Research (NCAER), New Delhi, India. The Project Director is Dr. J. Satyanarayana, NCAER. The contract was signed April 18, 1967. Its terminal date is December 1969.

The contract has not been in force long enough to determine its degree of progress or man-years spent.

- i. Netherlands: Long-term Projections of the Supply of and Demand for Agricultural Products. Contractor, Landbouw-Economisch Institut, The Hague, Netherlands; Director, Dr. A. Maris. This study, after undergoing delays and an extension of time, has been completed in Dutch, and is being translated into English before submission to the Europe and Soviet Union Branch.
- j. Nigeria: Long-term Projections of Supply of and Demand for Agricultural Products. This study will be an updating revision and extension of an earlier study. The contractor is the Department of Political Economy, University of Edinburgh, Scotland, Research Director, Ian G. Stewart. The final report is due December 1967. Work to date has concentrated on production, population, and elasticities.
- k. Pakistan: Long-term Projections of the Supply of and Demand for Agricultural Products. The contractor is the Social Sciences Research Center, Lahore. The Research Director is Dr. S.A. Abbas, Reader in Economics, University of the Punjab, Lahore, Pakistan.

The final report has been approved and is being published through the Oxford University Press, Lahore, Pakistan. 2,000 copies have been ordered for the Department of Agriculture.

In the final report the GNP of Pakistan is projected to grow at an annual compound rate of 7.9 percent from 1965 to 1985. With an assumed population growth rate of 3.7 percent, GNP per capita will increase at the approximate annual rate of 4.1 percent and rise from \$76 in 1965 to \$170 in 1985. The growth rate in the agricultural sector is projected to be only 3.9 percent which will necessitate an upward trend in the import of many food commodities, especially rice, wheat, and dairy products. Exports are expected to increase for fish, cotton, and jute.

The published volume should be available by January 1968.

1. Peru: Long-term Projections of the Supply of and Demand for Agricultural Products. The contractor is the Universidad Agraria, Lima, Peru. Sr. Ing. Eduardo Watson C., is overall study Director. The contract period began December 1, 1962 and is to be completed by August 31, 1967. The study is largely completed but the contractor has experienced difficulties in completing the final report. As a result of the study, as annual publication of agricultural statistics has been instituted by the Peruvian Government which has completely revised basic statistical series of the country and makes such data readily available for the first time. Other project results have supplied basic data for development planning.

m. South Korea: An analysis of the 1964 Country-wide Household Food Consumption Surveys Data for the Republic of Korea. The contractor is the Yonsei University, Seoul, Korea. Drs. Ki Hyuk Pak and Kee Chun Han are the Co-Leaders for this study. The current terminal date is February 28, 1968. The research work is progressing satisfactorily.

The study is about 70 percent complete. Professional man-years spent on this study during this period, 7.

n. Taiwan: Long-term Projection of the Import Requirements and Export Potential of Specified Agricultural Products. The contractor is the Research Institute of Rural Socio-Economics, National Taiwan University, Taipei, Taiwan. The Project Director is Te Tsui Chang, Professor and Director, Research Institute of Rural Socio-Economics, National Taiwan University, Taipei, Taiwan. The contract was signed March 31, 1967. Its terminal date is March 1969.

The contract has not been in force long enough to determine its degree of progress or man years spent.

o. United Arab Republic (Egypt): Long-term Projections of Supply of and Demand for Agricultural Products. The contract was signed with the Ministry of Agriculture, United Arab Republic. The final report was nearing completion before the Middle East conflict. This project has been indefinitely delayed because of political considerations.

4. Research Contracts Negotiated: 10/1/66 to 7/1/67

a. European Economic Community: An Aggregation of Agricultural Supply and Demand Projections for the EEC Country Studies: An Analysis with a View of the Finalization of the Common Agricultural Policy. Contractor, IFO-Institut fur Wirtschaftsforschung, Munich, Germany; Director, Dr. Gunter Zempel; Project Director, Dr. Helmut Schmidt. The contract was signed on June 19, 1967 and is scheduled for completion by September 30, 1968.

b. Iran: Long-term Projections of the Supply of and Demand for Agricultural Products. The contractor is Utah State University, Logan, Utah,

Research Director, Dr. Allen LeBaron. The study was signed in January 1967 for a period of two years.

5. Studies for Which Implications for U.S. Agriculture Have Been Analyzed

- a. Saudi Arabia: The major findings of this report were reported in the previous reporting period. These included projected U.S. rice exports to Saudi Arabia of 44,000 tons by 1970 and 58,000 tons by 1975. U.S. wheat exports to Saudi Arabia are projected to remain nearly constant, around 80,000 tons, through 1975.
- b. Venezuela: Projections to 1975 indicate that Venezuela will provide a generally growing market for 9 of the 22 study commodities: Wheat and wheat flour, corn, barley and malt, oats and products, pulses, fats and oils, milk products, cotton, and seed potatoes. Other agricultural imports may be required to meet seasonal deficits. Venezuela was the second largest U.S. market in Latin America for total and agricultural exports in 1960-66. About three-fourths of U.S. agricultural exports were supplied by 9 commodities: Wheat and flour, feed grains, dairy products, fruit and preparations, vegetables and preparations, fats and oils, eggs, barley and malt, and meat and meat products. Indications are that U.S. agricultural export opportunities to Venezuela will increase, particularly for grains, dairy products, and fats and oils.

D. Demand for Agricultural Exports of Less Developed Countries

Progress in the aid project has been mostly in developing data and identifying major market areas by major commodity groups. This included developing aggregate historical series of population, gross national product and production by major commodities for 22 major regions of the world. Considerable time was spent in this Division developing trade tableaux showing trade flow between the 22 regions for rice, wheat, and wheat flour while the Foreign Development and Trade Division developed trade tableaux for other major commodities. Progress is underway in identifying and developing the historical relationships for the food grains (wheat and rice) which will be the basis for projecting demand to the 1980's.

PUBLICATIONS REPORTING RESULTS OF U.S.D.A. AND FOREIGN RESEARCH CONTRACTORS

National Council of Applied Economic Research. All India Consumer Expenditure Survey, Volume II (Pattern of Income and Expenditure). New Delhi, India, 1967.

Hutchison, John Earl. Summary and Evaluation of Long-term Forecasts of the Supply and Demand of Agricultural and Livestock Products in Venezuela. U.S. Department of Agriculture, Foreign Regional Analysis Division, ERS-Foreign 191, 50 pages, 1967.

- Department of Economics, Monash University. Long-term Projections of Agricultural Supply and Demand, Australia 1965 to 1980. Clayton, Victoria, Australia, 1967.
- Moe, Lyle E. Saudi Arabia: Supply and Demand Projections for Farm Products to 1975 with Implications for U.S. Exports. U.S. Department of Agriculture, Foreign Regional Analysis Division, ERS-Foreign 168, 25 pages, 1966.
- Palmer, Edgar Z. Agriculture in Turkey: Long-term Projections of Supply and Demand. School of Business Administration and Economics, Robert College, Bebek, Istanbul, Turkey, 165 pages, 1966.
- Secretaria de Agricultura y Ganaderia, Secretaria de Hacienda y Credito Publico, and Banco de Mexico, S.A. Productions of Supply of and Demand for Agricultural Products in Mexico to 1965, 1970, and 1975. U.S. Department of Agriculture, Economic Research Service, 207 pages, 1966.
- West, Quentin M. World Trade in Agricultural Products. Contribution to The World Food Problem, Volume II, Report of the Panel on the World Food Supply, Presidents' Science Advisory Committee, pp. 158-177, May 1967.
- West, Quentin M. Foreign Supply and Demand Projections: Outlook for U.S. Agricultural Exports. Journal of Farm Economics, Volume 48, pp. 1359-1372, December 1966.
- West, Quentin M. World Food Problem. Paper presented at the Auburn Conference on the World Food Situation, Auburn University, 19 pages, December 16, 1966.
- West, Quentin M. Outlook for Calorie Production. Paper presented at the Eighth Annual Meeting of the Society for Economic Botany, University of Miami, Coral Gables, Florida, 17 pages, June 7, 1967.
- Rojko, Anthony S. Energy Foods: Grain Needs and Prospects. Paper presented at the "Agricultural Research Seminar", Oklahoma State University, Stillwater, Oklahoma, 30 pages, November 5, 1966.
- Foreign Regional Analysis Division. Outlook for Grain in 1970. Processed. U.S. Department of Agriculture, Economic Research Service, 15 pages, December 29, 1966.

Line Project Check List -- Reporting Period October 1, 1966 to July 1, 1967

Work and Line Project Number	Work and Line Project Titles	Work Locations During Past Year	Line Project Inc. in Summary of: Area and Progress: Subheading (Yes-No)
FRA 11	:Current situation and short-run outlook	:Washington, D. C.	: Yes : Area 1
-1	:World agricultural situation	:Washington, D. C.	: Yes :
-2	:Agricultural policies of foreign countries	:Washington, D. C.	: Yes :
-3	:Appraisal of food supplies in foreign countries	:Washington, D. C.	: Yes :
-4	:Situation and outlook, Western Hemisphere	:Washington, D. C.	: Yes :
-5	:Situation and outlook, Europe and Soviet Union	:Washington, D. C.	: Yes :
-6	:Situation and outlook, Africa and Middle East	:Washington, D. C.	: Yes :
-7	:Situation and outlook, Far East and Oceania	:Washington, D. C.	: Yes :
FRA 12	:Demand for and competition with U.S. agricul- : tural exports	:Washington, D. C.	: Yes : Area 2
-1	:Foreign competition and demand, Western : Hemisphere	:Washington, D. C.	: Yes :
-2	:Foreign competition and demand, Europe and : Soviet Union	:Washington, D. C.	: Yes :
E5-FRA-12	:Livestock-feed balances, selected West European : countries	:Ithaca, N. Y.	: Yes :
FRA 12 -3	:Foreign competition and demand, Africa and : Middle East	:Washington, D. C.	: Yes :
FX1-FRA-12	:Effect of oilseed production potential in : Nigeria, Congo (Leopoldville), and Senegal on : United States exports to the European Economic : Community	:Edmonton, Alberta, : Canada	: Yes :
FRA 12 -4	:Foreign competition and demand, Far East and : Oceania	:Washington, D. C.	: Yes :
FRA 13	:Long-range outlook for U.S. agricultural exports	:Washington, D. C.	: Yes : Area 3
-1	:World food budget, by country and region	:Washington, D. C.	: Yes :
-2	:Projection of exports of U.S. farm commodities	:Washington, D. C.	: Yes :
-3	:Long-term projections of foreign supply and : demand for agricultural products by country, : region, and for the world	:Washington, D. C.	: Yes :
-4	:Long-term projections of foreign supply and : demand in the Western Hemisphere	:Washington, D. C. : and visits to con- : tractors in Western : Hemisphere	: Yes :
S8-FRA-13	:Projections of supply and demand for agricul- : tural products in Peru	:Lima, Peru	: Yes :
FRA 13-5	:Long-term projections of foreign supply and : demand in Europe and the Soviet Union	:Washington, D. C. : and visits to con- : tractors in Western : Europe	: Yes :
E4-FRA-13	:Projections of the supply, demand, and trade in : Belgium, 1970 and 1975	:Antwerp, Belgium	: Yes :
E7-FRA-13	:Projections of supply, demand, and trade in 1970, : 1975, and 1980 in Denmark	:Aarhus, Denmark	: Yes :
E29-FRA-13	:Updating of the projections of the supply, : demand, and trade in 1970, 1975, and 1980 in : the U.K.	:Oxford, England	: Yes :
FRA 13-6	:Long-term projections of foreign supply and : demand in Africa and the Middle East	:Washington, D. C. : and visits to con- : tractors in Africa : and the Middle East	: Yes :
F4-FRA-13	:Projections of supply and demand for agricul- : tural products in the United Arab Republic	:Cairo, United Arab : Republic	: Yes :
F15-FRA-13	:Projections of supply and demand for agricul- : tural products in South Africa	:Cambridge, Mass.	: Yes :
A8-FRA-13	:Projections of supply and demand for agricul- : tural products in Iran	:Logan, Utah	: Yes :

Line Project Check List -- Reporting Period October 1, 1966 to July 1, 1967

Work and Line Project Number	Work and Line Project Titles	Work Locations During Past Year	Line Project Inc. in	
			Summary of Progress (Yes-No)	Area and Subheading
FRA 13				
A22-FRA-13	:Long-term projections of supply and demand for : selected agricultural products in Turkey	:Istanbul, Turkey	: Yes	: Area 3
FRA 13-7	:Long-term projections of foreign supply and demand : in the Far East and Oceania	:Washington, D. C. :and visits to con- :tractors in the Far :East and Oceania	: : Yes	: :
A25-FRA-13	:Projections of supply and demand for agricultural : products in Hong Kong	:Kowloon, Hong Kong	: Yes	: :
O1-FRA-13	:Projections of supply and demand for agricultural : products in Australia	:Clayton, Victoria, :Australia	: Yes	: :
A6-FRA-13	:Projections of Taiwan's import requirements and : export potential	:Taipei, Taiwan	: Yes	: :
A7-FRA-13	:Analysis of household consumption data in South : Korea	:Seoul, Korea	: Yes	: :
FRA 13-8	:Demand prospects for exports of less developed : countries	:Washington, D. C.	: Yes	: :